

REMARKS

The Office Action dated January 9, 2009, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

By this Response, claims 2-3, 6, 14, 24-27, and 32-36 have been amended, and claims 39-40 have been added, to more particularly point out and distinctly claim the subject matter of the present invention. No new matter has been added. Accordingly, claims 2-3, 6-9, 13-15, 17, 24-27, and 32-40 are currently pending in the application, of which claims 2-3, 24-26, and 32-36 are independent claims.

In view of the above amendments and the following remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending rejections to the claims for the reasons discussed below.

Allowable Subject Matter

Claims 6-9, 13-15, 17, and 27 were objected to as allegedly being dependent upon a rejected base claim, but would be allowable if rewritten independent form including all of the limitations of the base claim and any intervening claims. Applicants thank the Examiner for this indication of allowable subject matter. Applicants respectfully submit that the claims from which claims 6-9, 13-15, 17, and 27 depend are also allowable, as discussed below. Accordingly, Applicants respectfully request that the objections to claims 6-9, 13-15, 17, and 27 be withdrawn.

Reconsideration and allowance of claims 6-9, 13-15, 17, and 27 are, thus, respectfully submitted.

Claim Rejection - 35 U.S.C. 101

Claims 2-3 and 24-26 were rejected under 35 U.S.C. 101 as allegedly not falling within one of the four statutory categories of invention, specifically, a “process.” In particular, the Office Action asserted that independent method claims 2-3 and 24-26 neither are tied to a particular apparatus nor transform underlying subject matter to a different state or thing, and thus, are not statutory “processes.” Applicants have amended claims 2-3 and 24-26 to explicitly tie each step of the method claims to a particular machine, specifically, a receiver or a processor. Accordingly, Applicants respectfully submit that this rejection is moot in view of the claim amendments, and respectfully requests that this rejection be withdrawn.

Reconsideration and allowance of claims 2-3 and 24-26 are, therefore, respectfully submitted.

Claim Rejection - 35 U.S.C. 103

Claims 2-3, 24-26, and 32-38 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over “RFC 2977 - Mobile IP Authentication, Authorization, and Accounting Requirements” of Glass et al. (“RFC 2977”) in view of U.S. Patent Appln. Pub. No. 2002/0065785 of Tsuda (“Tsuda”) and U.S. Patent No. 6,751,459 of Lee et al.

(“Lee”). The Office Action acknowledged that RFC 2977 fails to disclose or suggest all of the features of claims 2-3, 24-26, and 32-38, and cited Tsuda and Lee to remedy the deficiencies of RFC 2977 with respect to these rejected claims. Applicants respectfully submit that each of claims 2-3, 24-26, and 32-38 recites subject matter that is neither disclosed nor suggested in the combination of RFC 2977, Tsuda, and Lee.

Independent claim 2, upon which claims 37-38 depend, is directed to a method including receiving, by a receiver, a message from subscriber’s user equipment, the message indicating that an address of a certificate provisioning gateway for certificate issuance and delivery procedure in a visited network is requested by the subscriber’s user equipment, the certificate provisioning gateway serving at least one certificate authority, the message further containing the address of the certificate provisioning gateway. The method also includes obtaining, by a processor, in response to receiving the message, subscriber’s location information maintained in a mobile communication system. The method further includes determining, by the processor, on the basis of the subscriber’s location information, an address of the certificate provisioning gateway. The method additionally includes checking, by the processor, whether or not the address of the certificate provisioning gateway received in the message is the same as the address of the certificate provisioning gateway determined on the basis of the location information. The method also includes when they are not the same, using, by the processor, the address determined on the basis of the location information.

Independent claim 3 is directed to a method including receiving, by a receiver, a message from subscriber's user equipment, the message containing subscriber's location information and indicating that an address of a certificate provisioning gateway for certificate issuance and delivery procedure in a visited network is requested by the subscriber's user equipment, the certificate provisioning gateway serving at least one certificate authority. The method also includes obtaining, by a processor, in response to receiving the message, subscriber's location information maintained in a mobile communication system. The method further includes checking, by the processor, whether or not the subscriber's location information received in the message corresponds to the subscriber's location information obtained. The method additionally includes using, by the processor, the subscriber's location information obtained to determine the address of the certificate provisioning gateway when the subscriber's location information obtained does not correspond to subscriber's the location information received in the message.

Independent claim 24, upon which claims 6-9, 13-15, and 17 depend, is directed to a method including receiving, by a receiver, a message from subscriber's user equipment, the message containing subscriber's location information and indicating that an address of a certificate provisioning gateway for certificate issuance and delivery procedure in a visited network is requested by the subscriber's user equipment, the certificate provisioning gateway serving at least one certificate authority. The method also includes obtaining, by a processor, in response to receiving the message, subscriber's location information maintained in a mobile communication system. The method further includes

checking, by the processor, whether or not the subscriber's location information received in the message corresponds to the subscriber's location information obtained. The method additionally includes when the subscriber's location information obtained corresponds to the subscriber's location information received in the message, determining, by the processor, on the basis of the subscriber's location information the address of the certificate provisioning gateway. The method also includes when the subscriber's location information obtained does not correspond to the subscriber's location information received in the message, sending, by the processor, an error indication by using the subscriber's location information obtained.

Independent claim 25, upon which claim 27 depends, is directed to a method including receiving, by a receiver, a message from subscriber's user equipment, the message containing subscriber's location information and indicating that an address of a certificate provisioning gateway for certificate issuance and delivery procedure in a visited network is requested by the subscriber's user equipment, the certificate provisioning gateway serving at least one certificate authority. The method also includes obtaining, by a processor, in response to receiving the message, subscriber's location information maintained in a mobile communication system. The method further includes checking, by the processor, whether or not the subscriber's location information received in the message corresponds to the subscriber's location information obtained. The method additionally includes determining, by the processor, on the basis of the subscriber's location information the address of the certificate provisioning gateway,

when the subscriber's location information received in the message corresponds to the subscriber's location information obtained. The method also includes using, by the processor, the subscriber's location information received in the message when the subscriber's location information received in the message does not correspond to the subscriber's location information obtained.

Independent claim 26 is directed to a method including receiving, by a receiver, a message from subscriber's user equipment, the message containing subscriber's location information and indicating that an address of a certificate provisioning gateway for certificate issuance and delivery procedure in a visited network is requested by the subscriber's user equipment, the certificate provisioning gateway serving at least one certificate authority. The method also includes obtaining, by a processor, in response to receiving the message, subscriber's location information maintained in a mobile communication system. The method further includes checking, by the processor, whether or not the subscriber's location information received in the message corresponds to the subscriber's location information obtained. The method additionally includes when the subscriber's location information received in the message corresponds to the subscriber's location information obtained, determining, by the processor, on the basis of the subscriber's location information the address of the certificate provisioning gateway. The method also includes when the subscriber's location information received in the message does not correspond to the location information obtained, sending, by the processor, an error indication by using the subscriber's location information received in the message.

Independent claim 32, upon which claims 39-40 depend, is directed to an apparatus including a processor configured to serve a certificate authority in a mobile communication system. The processor is also configured to determine, in response to receiving from subscriber's user equipment a message indicating a request for an address of another certificate provisioning gateway for certificate issuance and delivery procedure, the message further containing an address of the other certificate provisioning gateway, an address of the other certificate provisioning gateway on the basis of subscriber's location information maintained in and obtained from the mobile communication system. The processor is further configured to check whether or not the address of the other certificate provisioning gateway received in the message is the same as the address of the other certificate provisioning gateway determined on the basis of the subscriber's location information. The processor is additionally configured when they are not the same, to use the address of the other certificate provisioning gateway determined on the basis of the location information.

Independent claim 33 is directed to an apparatus including a processor configured to serve a certificate authority in a mobile communication system. The processor is also configured to obtain, in response to receiving from subscriber's user equipment a message containing subscriber's location information and indicating a request for an address of another certificate provisioning gateway for certificate issuance and delivery procedure in a visited network, subscriber's location information maintained in the system. The processor is further configured to check whether or not the subscriber's

location information received in the message corresponds to the subscriber's location information obtained. The processor is additionally configured to use the subscriber's location information obtained from the system to determine the address of the other certificate provisioning gateway when the subscriber's location information obtained from the system does not correspond to the location information received in the message.

Independent claim 34 is directed to an apparatus including a processor configured to serve a certificate authority in a mobile communication system. The processor is also configured to obtain, in response to receiving from subscriber's user equipment a message containing subscriber's location information and indicating that an address of another certificate provisioning gateway for certificate issuance and delivery procedure in a visited network is requested, subscriber's location information maintained in the system. The processor is further configured to check whether or not the subscriber's location information received in the message corresponds to the subscriber's location information obtained. The processor is additionally configured when the subscriber's location information received in the message corresponds to the subscriber's location information obtained, to determine an address of the other certificate provisioning gateway on the basis of the subscriber's location information. The processor is also configured when the subscriber's location information obtained from the system does not correspond to the subscriber's location information received in the message, to send an error indication by using the subscriber's location information obtained.

Independent claim 35 is directed to an apparatus including a processor configured to serve a certificate authority in a mobile communication system. The processor is also configured to obtain, in response to receiving from subscriber's user equipment a message containing subscriber's location information and indicating a request for an address of another certificate provisioning gateway for certificate issuance and delivery procedure in a visited network, subscriber's location information maintained in the system. The processor is further configured to check whether or not the subscriber's location information in the message corresponds to the subscriber's location information obtained. The processor is additionally configured to use the subscriber's location information received in the message to determine the address of the other certificate provisioning gateway when the subscriber's location information received in the message does not correspond to the subscriber's location information obtained.

Independent claim 36 is directed to an apparatus including a processor configured to serve a certificate authority in a mobile communication system. The processor is also configured to obtain, in response to receiving from subscriber's user equipment a message containing subscriber's location information and indicating a request for an address of another certificate provisioning gateway for certificate issuance and delivery procedure in a visited network, subscriber's location information maintained in the system. The processor is further configured to check whether or not the subscriber's location information received in the message corresponds to the subscriber's location information obtained. The processor is additionally configured to determine on the basis

of the subscriber's location information the address of the other certificate provisioning gateway, when the subscriber's location information in the message corresponds to the subscriber's location information obtained. The processor is also configured when the subscriber's location information received in the message does not correspond to the subscriber's location information obtained, to send an error indication by using the subscriber's location information received in the message.

Applicants respectfully submit that the combination of RFC 2977, Tsuda, and Lee fails to disclose or suggest all of the features of any of the presently pending claims.

RFC 2977 describes a basic model for operation of Authentication, Authorization, and Accounting (AAA) servers. Within the Internet, a client belonging to one administrative domain (called the home domain) often needs to use resources provided by another administrative domain (called the foreign domain). An agent in the foreign domain that attends to the client's request (call the agent the "attendant") is likely to require that the client provide some credentials that can be authenticated before access to the resources is permitted. The attendant is expected to consult an authority (typically in the same foreign domain) in order to request proof that the client has acceptable credentials (*see* RFC 2977 at page 4, section 3, "Basic Model").

Tsuda describes a mobile communication system that includes a mobile node device according to Mobile IP protocol that transmits an authentication and accounting request for requesting a desired accounting service at an AAA server device of a home network (AAAH server device). The AAAH server device carries out a processing for

providing the desired accounting service according to the authentication and accounting request (*see* Tsuda at Abstract).

Lee describes a method and an apparatus for updating information in a personal mobility database server with information concerning a user's nomadicity. When the user travels from one place to another, the user registers with a server at an IP port for computing communications. The server takes user's terminal personalization, together with usage profile, session characteristics into account to map a party's identifier to a terminal's identifier. The IP address of the user's current location is used in concert with the terminal's identifier, which is itself an IP address, to route incoming computing communications connection requests to the current location of the user (*see* Lee at Abstract).

Applicants respectfully submit that the combination of RFC 2977, Tsuda, and Lee fails to disclose or suggest all of the features of any of the presently pending claims. Specifically, the combination of RFC 2977, Tsuda, and Lee does not disclose or suggest, at least, "said message indicating that an address of a certificate provisioning gateway for certificate issuance and delivery procedure in a visited network is requested by the subscriber's user equipment, the certificate provisioning gateway serving at least one certificate authority, the message further containing the address of the certificate provisioning gateway," as recited in independent claim 2 and similarly recited in the other independent claims. The Office Action appears to assert that these features are disclosed by RFC 2977 at pages 4-15, sections 3-5, and Figures 1-2. In the cited portion,

RFC 2977 refers to a client C requesting resources from an attendant A (*see* RFC 2977 at page 4, section 3, “Basic Model,” and Figure 1). RFC 2977 also refers to AAA servers AAAH and AAAL authorizing the client C to have access to any/all requested resources (*see* RFC 2977 at pages 4-5, section 3, “Basic Model,” and Figure 1). The AAA servers further obtain or coordinate the allocation of a suitable IP address for a customer upon request by the customer (*see* RFC 2977 at page 8, section 4, “Requirements related to basic IP connectivity). The AAA servers additionally obtain the revocation status of a digital certificate in an AAA message either by performing online checks or otherwise validating the certificate (*see* RFC 2977 at page 7, section 3.1, “AAA Protocol Roaming Requirements”).

However, RFC 2977 fails to disclose or suggest that the client of RFC 2977 requests an address of a certificate provisioning gateway in a visited network, and that the request message contains the address of the certificate provisioning gateway. Accordingly, RFC 2977 does not disclose or suggest, at least, “said message indicating that an address of a certificate provisioning gateway ... in a visited network is requested by the subscriber’s user equipment ... the message further containing the address of the certificate provisioning gateway,” as recited in independent claim 2 and similarly recited in the other independent claims. As discussed above, RFC 2977 refers only to the client of RFC 2977 requesting resources, and to the customer requesting a suitable IP address for itself. RFC 2977 does not even mention an address of a certificate provisioning gateway in a visited network.

Tsuda and Lee fail to cure these deficiencies in RFC 2977. Tsuda refers to registering obtained addresses and generating a home IP address to be used by a mobile node (*see, e.g.*, Tsuda at paragraphs 88 and 92), but does not disclose or suggest requesting an address of a certificate provisioning gateway in a visited network. Lee refers to a terminal address and an e-mail address (*see, e.g.*, Lee at column 5, lines 35-65), but fails to disclose or suggest requesting an address of a certificate provisioning gateway in a visited network. Accordingly, the combination of RFC 2977, Tsuda, and Lee does not disclose or suggest, at least, “said message indicating that an address of a certificate provisioning gateway ... in a visited network is requested by the subscriber’s user equipment ... the message further containing the address of the certificate provisioning gateway,” as recited in independent claim 2 and similarly recited in the other independent claims.

The Interview Summary dated March 12, 2009 asserted that these features are “inherent in IP and Mobile-IP networking/routing since a data packet cannot be understood or routed without the source and destination addresses being known (or forwarded if a default gateway is used to forward the data)” (*see* Interview Summary at Continuation Sheet). “Further to this point is Tsuda’ figure 10 which ... shows the mobile (in a foreign network) whereby it contacts a foreign agent ... thusly the addresses are determined/used” (*see id.*). Applicants respectfully traverse this assertion of inherency.

Although it may be important for a user equipment to know and/or to forward source and destination addresses to and/or from a foreign agent, it is not necessary for the user equipment to request an address of the foreign agent, and to include the address in the request. Instead, as in the embodiments relied upon by the Interview Summary, it is possible for the user equipment, for example, to generate the address of the foreign agent itself, or to receive the address from the foreign agent without requesting the address. In addition, it appears that the Interview Summary has overlooked the benefits of including the address of the foreign agent in the request to verify the accuracy of the address in the user equipment with an address of the foreign agent determined based on location. Thus, even if Figure 10 of Tsuda shows the address of the foreign agent, it does not disclose or suggest requesting the address of the foreign agent and including the address in the request message, of the claimed invention. Therefore, assuming that the Interview Summary is correct (for the sake of argument), nevertheless, the combination of RFC 2977, Tsuda, and Lee does not disclose all of the features of the rejected claims.

Furthermore, RFC 2977 fails to disclose or suggest the certificate provisioning gateway for certificate issuance and delivery procedure and serving at least one certificate authority, of the claimed invention. As discussed above, RFC 2977 refers only to the attendant of RFC 2977 providing resources, and to the AAA servers obtaining the revocation status of a digital certificate in an AAA message. RFC 2977 does not disclose or suggest that either the attendant or the AAA servers of RFC 2977 is “for certificate issuance and delivery,” as recited in independent claim 2. Thus, the attendant and the

AAA servers of RFC 2977 cannot correspond to the certificate provisioning gateway of the claimed invention.

Tsuda and Lee do not cure these deficiencies in RFC 2977. Tsuda refers to a certificate authority (*see* Tsuda at paragraph 186), but fails to disclose or suggest the functionality of the certificate authority, the address of the certificate authority, and a certificate provisioning gateway for certificate issuance and delivery procedure. Lee does not even mention the term “certificate,” and therefore, does not disclose or suggest a certificate provisioning gateway for certificate issuance and delivery procedure and serving at least one certificate authority. Accordingly, the combination of RFC 2977, Tsuda, and Lee fails to disclose or suggest, at least, “a certificate provisioning gateway for certificate issuance and delivery procedure ... the certificate provisioning gateway serving at least one certificate authority,” as recited in independent claim 2 and the other independent claims. Also, accordingly, the combination of RFC 2977, Tsuda, and Lee does not disclose or suggest, “determining ... **an address of the certificate provisioning gateway** ... checking ... whether or not **the address of the certificate provisioning gateway** received in the message is the same as **the address of the certificate provisioning gateway** determined ... and when they are not the same, using ... the address determined,” (emphasis added) as recited in independent claim 2 and similarly recited in the other independent claims.

For at least the reasons discussed above, Applicants respectfully submit that the combination of RFC 2977, Tsuda, and Lee does not disclose or suggest all of the

elements of independent claims 2-3, 24-26, and 32-36. Accordingly, Applicants respectfully request that the rejections of independent claims 2-3, 24-26, and 32-36 be withdrawn.

Claims 37-38 depend from, and further limit, independent claim 2. Thus, each of claims 37-38 recites subject matter that is neither disclosed nor suggested in the combination of RFC 2977, Tsuda, and Lee. Accordingly, Applicants respectfully request that the rejection of claims 37-38 be withdrawn.

Reconsideration and allowance of claims 2-3, 24-26, and 32-38 are, therefore, respectfully submitted.

Conclusion

For at least the reasons discussed above, Applicants respectfully submit that the cited reference fails to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is thus respectfully requested that all of claims 2-3, 6-9, 13-15, 17, 24-27, and 32-40 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicants respectfully petition for an appropriate extension of time.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Alicia M. Choi', is written over a horizontal line.

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